

IN THE CLAIMS

Claims 1, 12-20, 22, 23 and 25 are amended as follows without prejudice or disclaimer of the subject matter thereof.

1. (Currently Amended) A method of using electrical signals originating in an individual's brain and terminating at an impaired muscle to rehabilitate individuals with motor deficiencies comprising:
 - (a) prompting the individual to attempt to contract an impaired muscle;
 - (b) detecting an electrical signal within the impaired muscle generated by the individual's attempt to contract, using electrodes placed on the individual's skin near the impaired muscle;
 - (c) transmitting the electrical signal to a microprocessor;
 - (d) checking the pattern of the electrical signal against a mathematical algorithm;
 - (e) determining whether or not an attempt to move the impaired muscle has been made by the patient;
 - (f) measuring the strength of the electrical signals; and
 - (g) sending an electric current to an electrode in contact with the individual's skin to cause a muscle contraction if the strength of the electrical signal is larger than a first threshold value.
2. (Original) The method of claim 1 further comprising the step of displaying the strength of the electrical signal on a visual display.
3. (Original) The method of claim 1 further comprising the step of setting a second threshold value higher than the first threshold value if the first threshold value is reached in a prior attempt to move the impaired muscle.
4. (Original) The method of claim 1 further comprising the step of setting the second threshold value lower than the first threshold value if the first threshold value is not reached in a prior attempt to move the impaired muscle.
5. (Original) The method of claim 1 further comprising the step of maintaining the threshold value unchanged.
6. (Original) The method of claim 1 further comprising the step of prompting the individual to relax said impaired muscle.
7. (Original) The method of claim 1 wherein a prompt is in the form of a sensory cue.
8. (Original) The method of claim 7 wherein the prompt is in the form of a visual cue.
9. (Original) The method of claim 7 wherein the prompt is in the form of an auditory cue.

Page 2 of 13

Attorney Docket Number: 007189-05
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10. (Original) The method of claim 1 further comprising the step of recording the data received and transmitted by said microprocessor.
11. (Original) The method of claim 1 further comprising the step of reducing electrical noise by incorporating a floating, amplified grounding device.
12. (Currently Amended) A muscular therapy device comprising:
 - (a) at least two sensors for detecting electrical signals within a muscle generated by an individual's attempt to move the muscle;
 - (b) said sensors in physical contact with a portion of skin near the muscle;
 - (c) said sensors in electrical contact with a microprocessor;
 - (d) said microprocessor capable of deciphering from a pattern of said electrical signals whether or not an attempt to move said muscle has been made;
 - (e) said microprocessor capable of communicating with a display device;
 - (f) said microprocessor capable of setting a threshold value after every attempt to move the muscle;
 - (g) said threshold value used to determine when the strength of said attempt is sufficient to warrant a reward; and
 - (h) said reward in the form of an electrical current sent from said microprocessor to said sensors for causing a visible muscle contraction.
13. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 wherein said microprocessor produces an auditory cue.
14. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 further comprising a memory means for storing information obtained by said microprocessor.
15. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 wherein the sensors cover an area of skin measuring about 1 to 4 square inches.
16. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 wherein the microprocessor is capable of communicating with a display device.
17. (Currently Amended) The muscular therapy device of claim ~~14~~ 16 wherein the display device is angled toward a user when the user is in a reclined position.
18. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 wherein the sensors can detect electrical impulses of about 0.2 to about 2000 μ V.
19. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 wherein the microprocessor is capable of analyzing at least 3,000 signals per second.

20. (Currently Amended) The muscular therapy device of claim ~~10~~ 12 further comprising a floating, amplified grounding device for reducing electrical noise in an EMG input of the device.
21. (Original) An improvement to a muscular therapy device, the improvement comprising:
- (a) means for detecting electrical impulses of about 0.2 to about 2000 μ V; and
 - (b) means for sampling an electrical signal at least 3000 times per second.
22. (Currently Amended) A method of using electrical signals originating in an individual's brain and terminating at an impaired muscle to rehabilitate individuals with motor deficiencies comprising:
- (a) prompting the individual to attempt to contract an impaired muscle;
 - (b) detecting an electrical signal within the impaired muscle generated by the individual's attempt to contract, using electrodes placed on the individual's skin near the impaired muscle;
 - (c) transmitting the electrical signal to a microprocessor;
 - (d) checking the pattern of the electrical signal against a mathematical algorithm;
 - (e) determining whether or not an attempt to move the impaired muscle has been made by the patient;
 - (f) measuring the strength of the electrical signals;
 - (g) sending an electric current to an electrode in contact with the individual's skin to cause a muscle contraction if the strength of the electrical signal is larger than a first threshold value;
 - (h) detecting electrical impulses of about 0.2 to about 2000 μ V;
 - (i) analyzing at least 3,000 signals per second; and
 - (j) utilizing a floating, amplified grounding device for reducing electrical noise.
23. (Currently Amended) A muscular therapy device comprising:
- (a) at least two sensors for detecting electrical signals within a muscle generated by an individual's attempt to contract the muscle;
 - (b) said sensors in physical contact with a portion of skin near the muscle;
 - (c) said sensors in electrical contact with a microprocessor;
 - (d) said microprocessor capable of deciphering from a pattern of said electrical signals whether or not an attempt to move said muscle has been made;
 - (e) said microprocessor capable of communicating with a display device;
 - (f) said microprocessor capable of setting a threshold value after every attempt to move the muscle;
 - (g) said threshold value used to determine when the strength of said attempt is sufficient to warrant a reward;
 - (h) said reward in the form of an electrical current sent from said microprocessor to said sensors for causing a visible muscle contraction;
 - (i) said sensors detecting electrical impulses of about 0.2 to about 2000 μ V;
 - (j) said microprocessor capable of analyzing at least 3,000 signals per second; and

(k) a floating, amplified grounding device for reducing electrical noise.

24. (Original) A method for improving the sensitivity of a muscular therapy device, said improvement comprising:

- (a) providing means for detecting electrical impulses of about 0.2 to about 2000 μ V; and
- (b) providing means for analyzing at least 2500 signals per second.

25. (Currently Amended) A method of using electrical signals originating in an individual's brain and terminating at an impaired muscle to rehabilitate individuals with motor deficiencies comprising:

- (a) prompting the individual to attempt to contract an impaired muscle;
- (b) detecting an electrical signal within the impaired muscle generated by the individual's attempt to contract, using electrodes placed on the individual's skin near the impaired muscle;
- (c) transmitting the electrical signal to a microprocessor;
- (d) checking the pattern of the electrical signal against a mathematical algorithm;
- (e) determining whether or not an attempt to move the impaired muscle has been made by the patient;
- (f) measuring the strength of the electrical signals;
- (g) sending an electric current to an electrode in contact with the individual's skin to cause a muscle contraction if the strength of the electrical signal is larger than a first threshold value; and
- (h) electronically adjusting the threshold value according to a mathematical algorithm.